Order No. MAC0007022C3

Service Manual

Room Air Conditioner

CW-A90AR / CW-A120AR

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

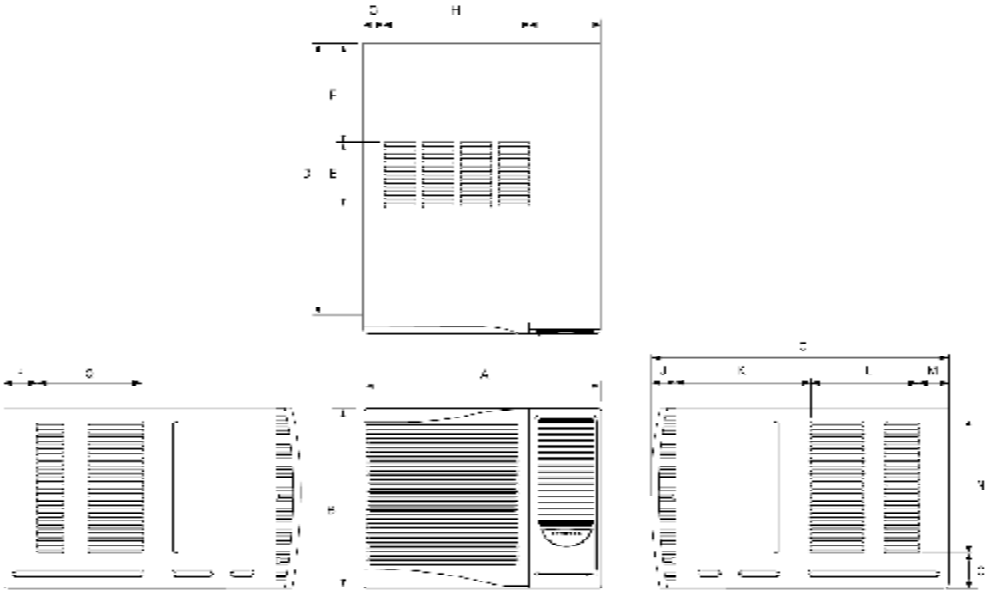
Panasonic

1. Product Specifications

Model	CW-A90AR		CW-A120AR	
	Cooling	Heating	Cooling	Heat
Phase	Single		Single	
Voltage	240 - 220 V		240 - 220 V	
Frequency	50 Hz		50 Hz	
Capacity	2.70 - 2.67 kW 9,200 - 9,100 Btu/h	2.61 - 2.55 kW 8,900 - 8,700 Btu/h	3.45 - 3.40 kW 11,800 - 11,600 Btu/h	3.20 - 3 10,900 - 10
Running Current	4.4 - 4.7 A	3.8 - 4.0 A	6.1 - 6.3 A	5.1 - 5
Input Power	1.03 - 1.01 kW	890 - 850 W	1.40 - 1.34 kW	1.18 - 1
EER	2.62 - 2.64 W/W	------	2.46 - 2.54 W/W	----
COP	------	2.93 - 3.00 W/W	------	2.71 - 2.8
Starting Current	20 A		27 A	
Noise Level	Indoor (High / Low): 47 / 44 - 45 / 42 dB(A) Outdoor (High / Low): 53 / 51 - 52 / 50 dB(A)	Indoor (High / Low): 45 / 42 - 44 / 41 dB(A) Outdoor (High / Low): 55 / 53 - 54 / 52 dB(A)	Indoor (High / Low): 50 / 47 - 48 / 45 dB(A) Outdoor (High / Low): 57 / 54 - 56 / 53 dB(A)	Indoor (Hig 50 / 47 - 48 Outdoor (Hi 59 / 56 - 58
Power Noise Level	Outdoor: 66 dB(A)		Outdoor: 71 dB(A)	
Fan Motor Output	40 W		70 W	
Compressor Output	800 W		950 W	
Moisture Removal	1.6 Ltr/h 3.4 Pint/h		2.0 Ltr/h 4.2 Pint/h	
Air Circulation	8.0 m3/min. 280 Ft3/min.		9.8 m3/min. 350 Ft3/min.	
Dimensions	Height: 14-25/32 inches (375 mm) Width: 22-1/16 inches (560 mm) Depth: 24-1/32 inches (610 mm)		Height: 14-25/32 inches (375 Width: 22-1/16 inches (560 m Depth: 24-1/32 inches (610 m	
Net Weight	44 kg 97 lb		49 kg 108 lb	
Refrigerant (R-22)	685 g 24.2 oz		725 g 25.6 oz	

2. Dimensions

2.1. Top View, Front View & Side View

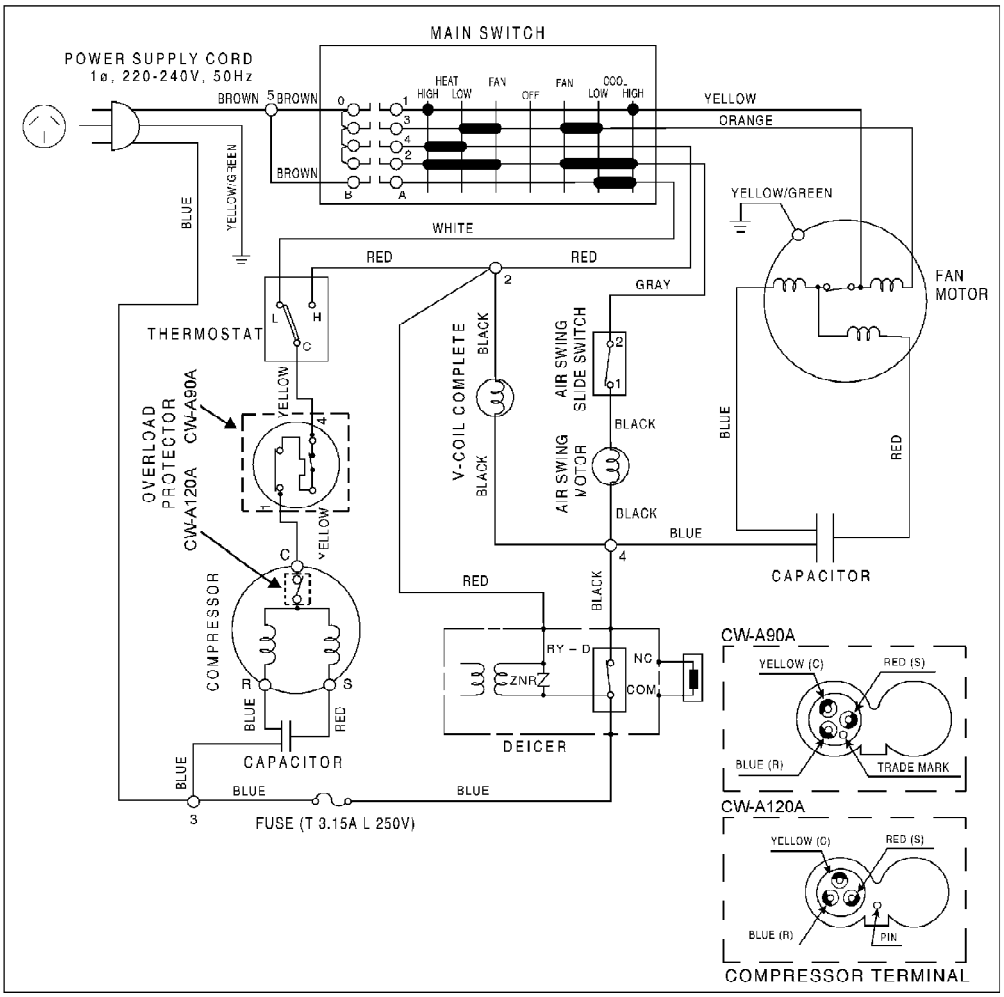


2.2. Unit

Item	Unit: Inch (mm)
A - Width	22-1/16” (560)
B - Height	14-25/32” (375)
C - Depth	24-1/32” (610)
D	22-9/32” (566)
E	5-29/32” (150)
F	6-1/2” (165)
G	1-11/16” (43)
H	13-7/32” (336)
I	7-1/8” (181)
J	1-23/32” (44)
K	9-17/32” (242)
L	10-1/4” (260)
M	2-17/32” (64)
N	11-13/16” (300)
O	2-1/4” (57)
P	3-5/32” (80)
Q	9-9/16” (243)

3. Wiring Diagram

3.1. CW-A90AR & CW-A120AR



3.2. Resistance of Compressor windings and the rated Capacitor.

	CW-A90AR	CW-A120AR
Connection	2PS164D5BB02	2KS206D5AA04
C-R	3.466 Ω	2.234 Ω
C-S	3.843 Ω	2.630 Ω
Capacitor	CWA31503 (30 μF, 370VAC)	CWA31716 (35 μF, 370VAC)

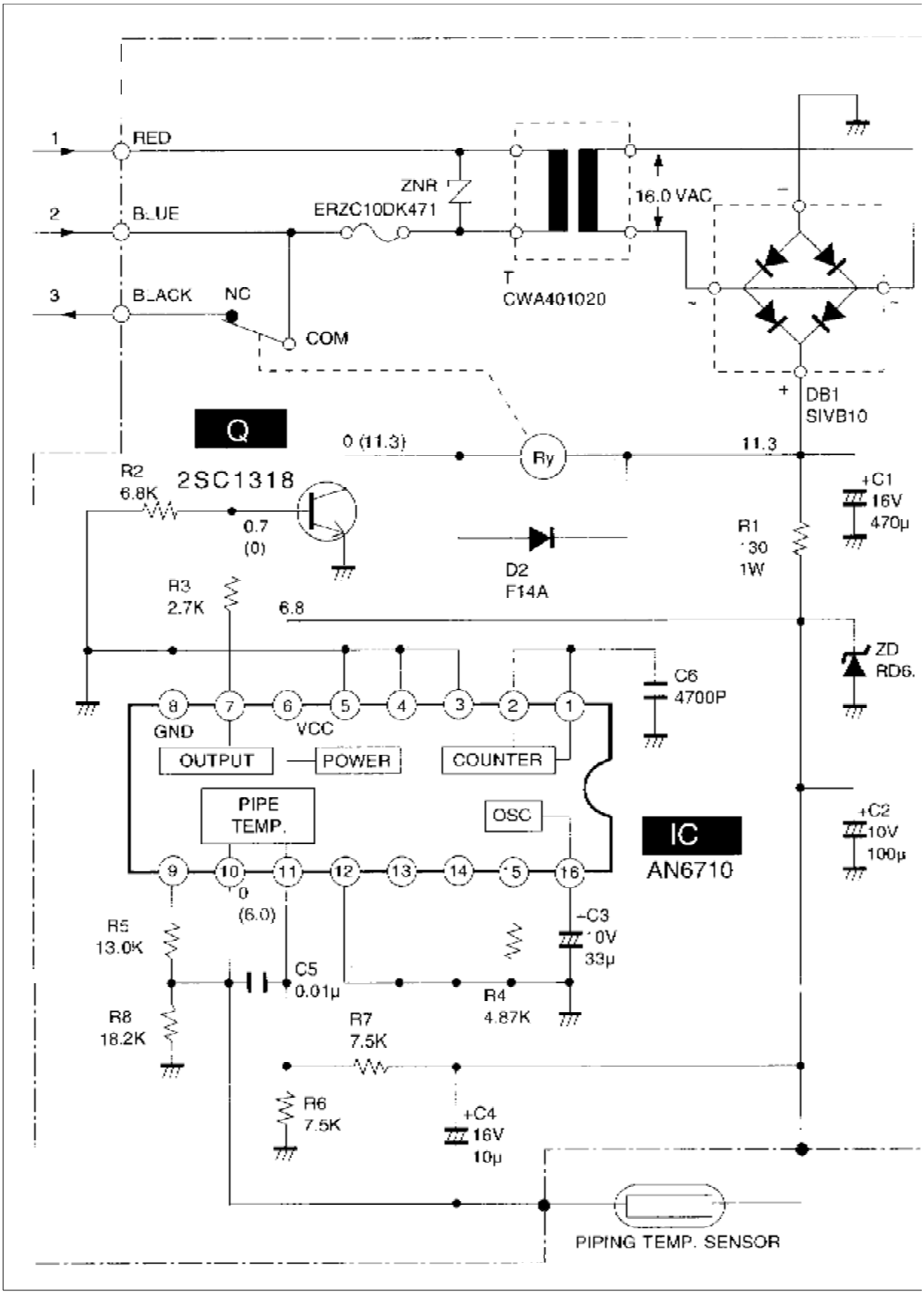
Note: Resistance at 20°C of Ambient Temperature.

3.3. Resistance of Fan Motor windings and the rated Capacitor.

	CW-A90AR	CW-A120AR
Connection	CWA951045	CWA921009
Blue - Yellow	197.1 Ω	43.5 Ω
Yellow - Orange	85.6 Ω	29.1 Ω
Red - Yellow	208.2 Ω	78.1 Ω
Capacitor	CWA312042 (2.5 μF, 440VAC)	CWA31609 (3.5 μF, 400VAC)

4. Electronic Circuit Diagram

4.1. Deicer Schematic Diagram


1
RED
2
BLUE
3
BLACK
NC
COM
ZNR
ERZC10DK471
T
CWA401020
16.0 VAC
DB1
SIVB10
Q
2SC1318
0 (11.3)
Ry
11.3
R2
6.8K
0.7
(0)
D2
F14A
+C1
16V
470μ
R1
30
1W
R3
2.7K
6.8
ZD
RD6.
C6
4700P
8
7
6
5
4
3
2
1
GND
VCC
OUTPUT
POWER
COUNTER
PIPE
TEMP.
OSC
IC
AN6710
+C2
10V
100μ
9
10
11
12
13
14
15
16
0
(6.0)
R5
13.0K
C5
0.01μ
R4
4.87K
-C3
10V
33μ
R8
18.2K
R7
7.5K
R6
7.5K
+C4
16V
10μ
PIPING TEMP. SENSOR

4.2. Deice Operation Details.

- To prevent frosting at outdoor heat exchanger (Condenser) during heating operation.

- Deice operation;

1. Deice operation detection commences in heating operation starts or 60 minutes after previous deice operation. If the outdoor piping temperature drops to -1.5°C continuously during compressor is in operation, deice will start.

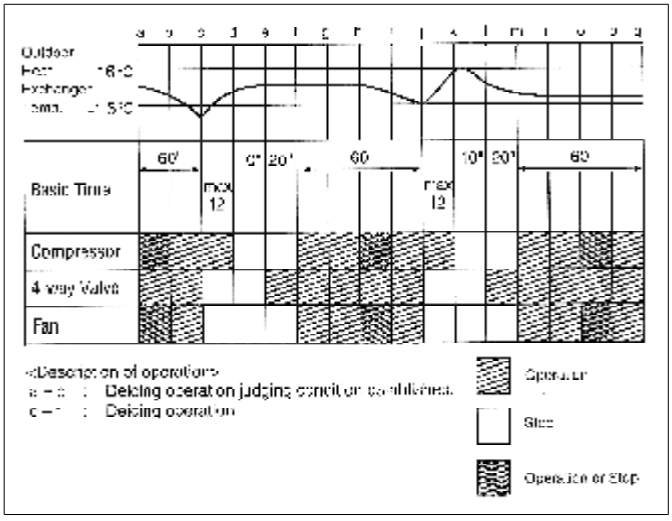
- Deicing ends when;

1. 12 minutes after deicing operation starts; or

2. The outdoor piping temperature rises to about 16°C.

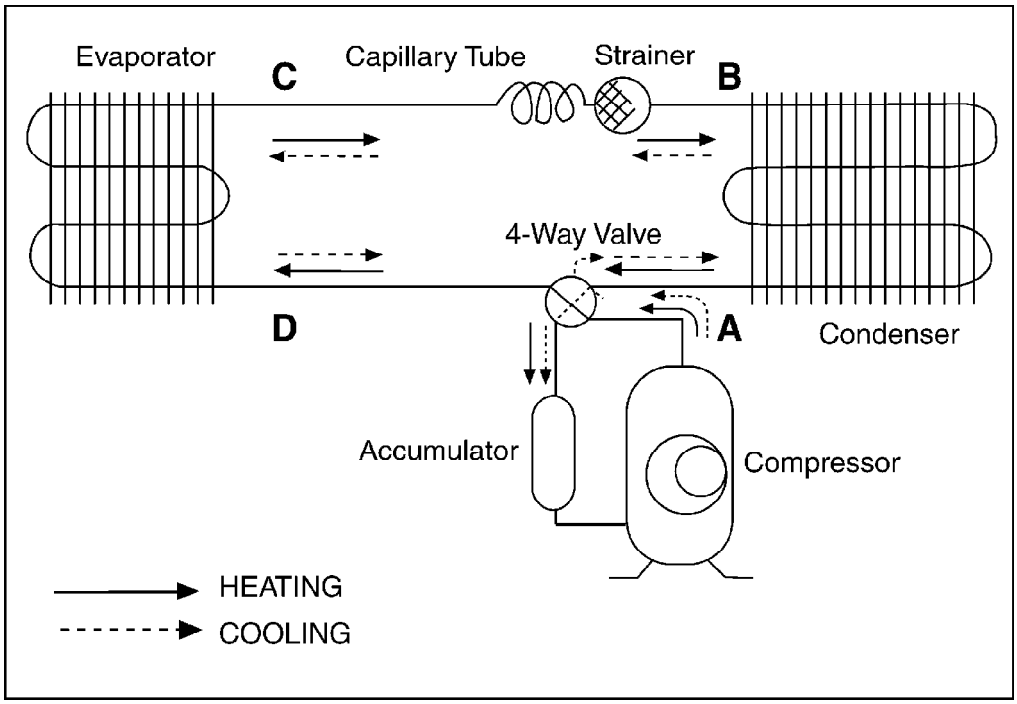
- After deicing operation, compressor stops for 30 seconds and 4-way valve stays at cooling position for 10 seconds.

4.2.1. Deicing Time Diagram.



5. Refrigeration Cycle Diagram

5.1. CW-A90AR & CW-A120AR



Note: Indoor temperature at 27°C (DB), 19°C (WB) and Outdoor at 35°C (DB), 24°C (WB) for Cooling & indoor temperature at 20°C (DB), 15.5°C (WB) and Outdoor at 7°C (DB), 6°C (WB) for Heating.

5.1.1. Cooling

	CW-A90AR		CW-A120AR	
Item	Pressure (MPa)	Temperature (°C)	Pressure (MPa)	Temperature (°C)
A	2.10 ~ 2.30	66 ~ 76	2.15 ~ 2.35	72 ~ 82
B	2.05 ~ 2.25	38 ~ 48	2.10 ~ 2.30	38 ~ 48
C	0.53 ~ 0.58	6 ~ 11	0.52 ~ 0.57	7 ~ 12
D	0.51 ~ 0.56	10 ~ 15	0.50 ~ 0.55	9 ~ 14

5.1.2. Heating

	CW-A90AR		CW-A120AR	
Item	Pressure (MPa)	Temperature (°C)	Pressure (MPa)	Temperature (°C)
A	0.36 ~ 0.41	0 ~ 5	0.33 ~ 0.38	-2 ~ 3
B	0.38 ~ 0.43	0 ~ 5	0.35 ~ 0.40	-1 ~ 4
C	1.55 ~ 1.75	30 ~ 40	1.55 ~ 1.75	30 ~ 40
D	1.60 ~ 1.80	40 ~ 50	1.60 ~ 1.80	40 ~ 50

6. Air Conditioner Performance Evaluation

6.1. Cooling

Intake & Discharge Air Temperature Difference	Current Drain	Determination	Remedy
-8°C and over (14.4°F)	-As specified.	-Nothing wrong.	-None.
-8°C and over (14.4°F)	-Higher than specified.	-Nothing wrong, outdoor temperature is too high, heat radiation is not efficient.	-Improve heat radiation.
-Under 8°C (14.4°F)	-Higher than specified.	-Something is preventing heat radiation.	-Excessive amount of refrig -Improve heat radiation.
-Under 8°C (14.4°F)	-Lower than specified.	-Leakage of refrigerant or refrigerant system is blocked.	-Locate and repair leak. -Flush refrigeration cycle.
-Under 8°C (14.4°F)	-Higher than specified by 50%.	-Compressor defect or compressor capacitor defect.	-Replace the compressor or compressor capacitor.

Note: Room air humidity is relatively higher, the temperature difference will be smaller.

6.2. Heating

Intake & Discharge Air Temperature Difference	Current Drain	Determination	Remedy
-14°C and over (25.2°F)	-As specified.	-Nothing wrong.	-None.
-14°C and over (25.2°F)	-Higher than specified.	-Nothing wrong, outdoor temperature is high. -Something is preventing heat radiation at indoor heat exchanger.	-None. -Clean air filter.
-Under 14°C (25.2°F)	-Lower than specified.	-Nothing wrong, outdoor temperature is low. -Something is preventing heat radiation at outdoor heat exchanger. -Leakage of refrigerant. -Refrigerant system is blocked.	-None. -Improve heat radiation at o exchanger. -Locate and repair leak. -Flush refrigeration cycle.
-Under 14°C (25.2°F)	-Higher than specified by 50%.	-Compressor defect. -Compressor capacitor defect	-Replace the compressor. -Replace the compressor ca

Note: Room air humidity is relatively higher, the temperature difference will be smaller.

7. Troubleshooting Guide

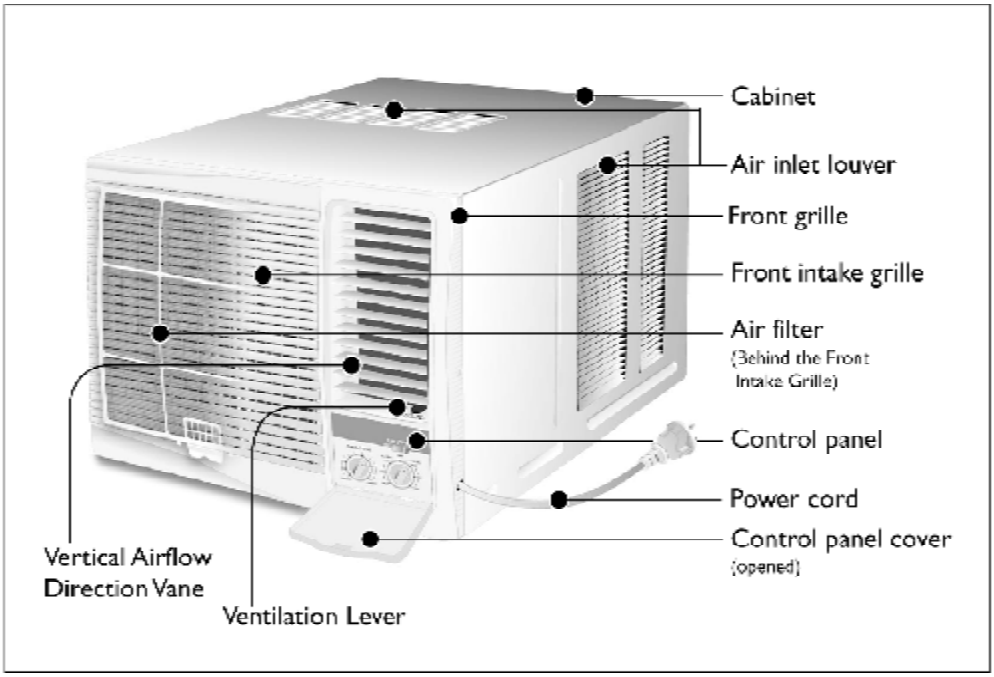
⚠ **Warning: Disconnect unit from electrical power supply before making any electrical checks.**

Trouble	Check	Result	Cause	Remedy
Fan Motor and Compressor won't run.	-Supply Voltage -Fuse Box or Circuit Breaker. -Power cord or Wiring Harness. -Thermostat Setting.	-Less than 10% by Rated. -Open Contacts. -Pulled loose or Shorted. -Higher than room temp.	-Temporary or Permanent? -Customer Restarted unit immediately without waiting 3 minutes.	-Consult ELECTRICIA permanent. -Repair Open Circuit. -WAIT FOR 3 MINUTE -Repair or Replace it. -Set it LOWER.
Fan Motor won't run (Compressor run).	-Objects around Fan. -RESISTANCE between Wires. -Capacitor Fan Motor. -Main Control Switch. -In Heating operation.	-Locked Fan. -Shorted / Open circuit. -OHM Meter doesn't Deflect. -No contacts at Position Shown. -Normal.	-Fan Hitting Cowling or -Foreign Materials. -Frozen Bearings. -Shorted or Burned out. -Capacitor Defect. -Main Control Switch defect. -De-icing operation.	-Adjust Fan position s screw. -Remove Foreign Mat -Replace Fan Motor. -Replace Fan Motor. -Replace Capacitor Fa -Replace Main Contro
Compressor won't run (Fan run).	-Thermostat setting. -RESISTANCE between Terminal and the Compressor Body. -RESISTANCE between Terminals. -Overload Protector. -Capacitor Compressor. -Thermostat. -Main Control Switch.	-Higher than room temp. -Shorted. -Shorted. -Infinity between Terminals. -OHM Meter doesn't deflect. -No click heard. -No contacts at Position Shown.	-Winding Coil touched to the compressor shell. -Rear Shorted or Burnt out. -Overload Protector defect. -Capacitor defect. -Thermostat defect. -Main Control Switch defect.	-Set it lower. -Replace Compressor -Replace Compressor -Replace Overload Pr -Replace Capacitor Compressor. -Replace Thermostat. -Replace Main Contro
Air Swing won't run.	-Air Swing Switch. -Resistance between wires.	-OFF position. -No contact at position. -OHM Meter doesn't deflect.	-Open circuit. -Shorted or open circuit.	-Set it ON. -Replace Air Swing Sv -Replace Air Swing M
Insufficient cooling or heating.	-Thermostat Setting. -Ventilation door open. -Air filter dirty. -Location of installation. -Evaporator / Condenser Coil obstructed. -Unit capacity for the room too small. -Temp difference and running current.	-Higher or lower than room temp. -Open. -Clogged or dirty. -Sunlight hitting outdoor side at cooling. -Obstacles. -Clogged or dirty. -Not satisfied. -REFER TO PERFORMANCE EVALUATION.	-Reduces capacity. -Restricted air circulation. -Restricted Heat Exchanger. -Restricted Heat Exchanger. -Restricted air circulation. -Leakage of refrigerant or refrigeration system is blocked.	-Set it lower or higher -Close Vent. door. -Clean or replace Air -Consider building an -Remove obstacles o unit. -Clean the coils. -Replace the unit with one. -Locate repair leak. -Flush refrigeration cy
Noise.	-Source of Noise	-Vibration. -Intermittent Noise.	-Faulty installation. -Fan hitting objects. -Refrigerant tubing touching each other.	-Reinstall unit or Rein installation. -Adjust Fan position foreign materials. -About 1/2" Clearance
Water dripping inside room.	-Unit installation. -Drain Tray-Styrofoam pieces blocking drain channel.	-Tilted to inside room. -Clogged.	-Restricted run off. -Clogged or blocked.	-Tilt unit to outside sli -Remove the foreign

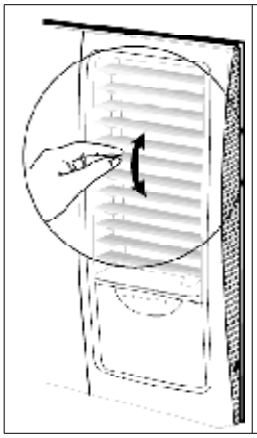
Trouble	Check	Result	Cause	Remedy
Frozen Evaporator	-Thermostat setting. -Air filter / Evaporator. -Temp. difference and running current.	-Set too low for ambient conditions. -Clogged or Dirty. -REFER TO PERFORMANCE EVALUATION.	-Outdoor temp. low (Night time). -Restricted air circulation. -Leakage of refrigerant or refrigeration system is blocked.	-Set the Main Control Fan to melt ice and se Temp. Control to high temperature. -Clean Air filter / Evap -Locate and repair lea -Flush refrigeration cy
No heating (Fan and Compressor run).	-Reversing valve coil. -Reversing valve.	-Infinity between coil. -Resistance between reversing valve coil.		-Replace reversing va -Replace reversing va
Frozen Condenser	-Outdoor ambient temp.	-Heating operation at low outdoor ambient temp.	-Outdoor ambient temp. is low.	-Set Main Control Swi Fan to melt ice.

8. Operating Instructions

8.1. Parts Identification.



8.1.1. Vertical Airflow Direction Vane.



Airflow direction adjustment Up -and-Down.

-The vertical airflow direction vane may be positioned to deflect the air upwards, downwards or straight on.

8.1.2. Ventilation Lever.

When the slide lever is in the:

-"OPEN" position, the ventilation door is opened to allow air, smoke and odors to be expelled from the room.

-"CLOSE" position, the ventilation door is closed and the air inside the room is circulated and conditioned.

8.1.3. Operating Conditions.

Use the air conditioner under the following conditions:

- Operating temperature range.

		Indoor side		Outdoor side	
		D.B.T.	W.B.T.	D.B.T.	W.B.T.
Cooling	Maximum Temperature	32°C	23°C	43°C	26°C
	Minimum Temperature	21°C	15°C	21°C	15°C
Heating	Maximum Temperature	27°C	----	21°C	15°C
	Minimum Temperature	20°C	----	-5°C	-6°C

Note: Humidity may exceed 90%.

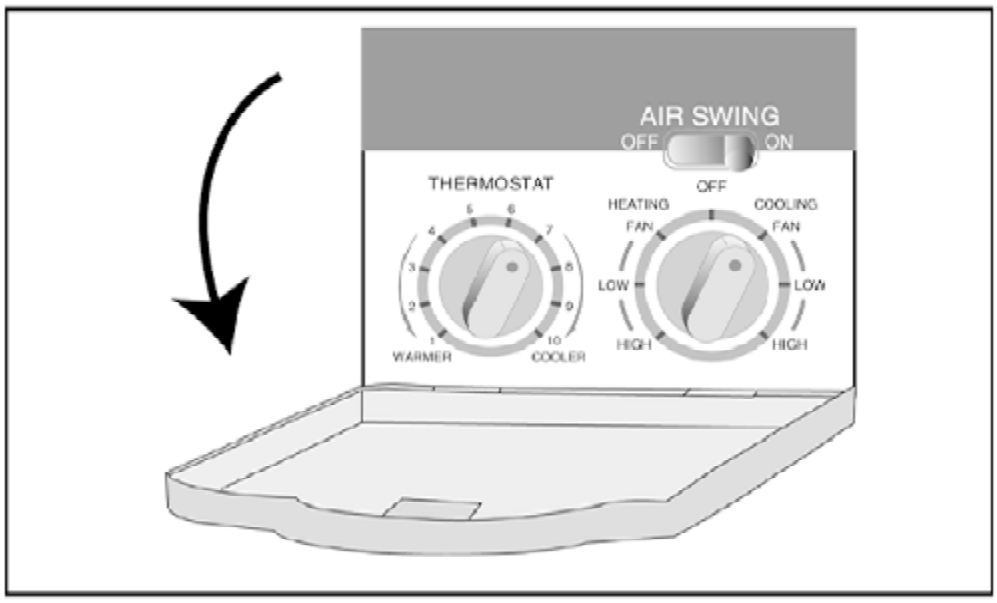
- Continuous operation at humidities of over 90% may create

condensation to form on the intake and outlet vanes.

8.2. How to Operate.

1. Open the Control Panel Cover.

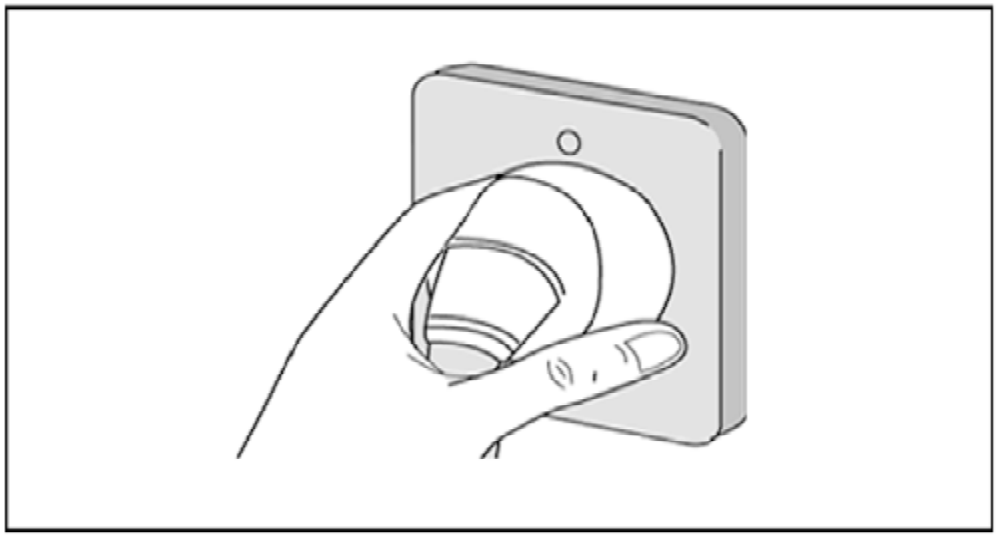
Fig. 1



2. Power Supply

Switch off the breaker and set the Main Control Knob to the OFF position before plugging the power plug into an electrical outlet.

Fig. 2

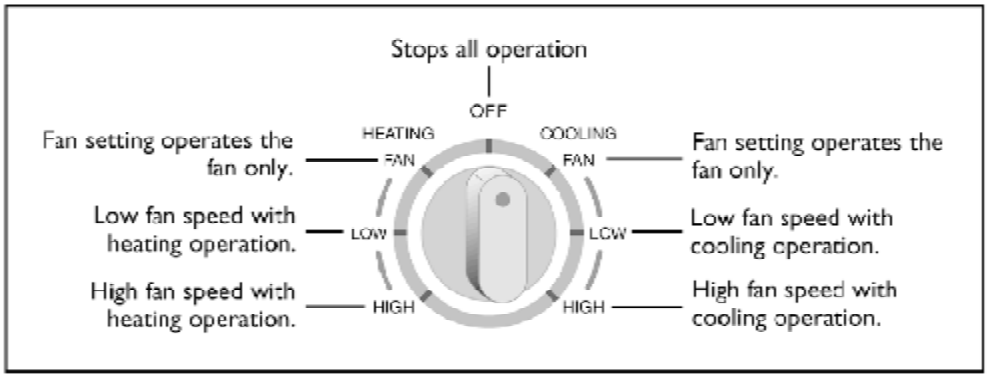


3. Main Control Knob

Set the Main Control Knob to either LOW COOLING or HIGH COOLING and LOW HEATING or HIGH HEATING as desired, FAN setting operates the fan only.

Caution: If the Main Control Knob is turned off or changed to a fan setting from a cooling or heating operation setting, WAIT at least 3 minutes before resetting it to cooling or heating operation.

Fig. 3

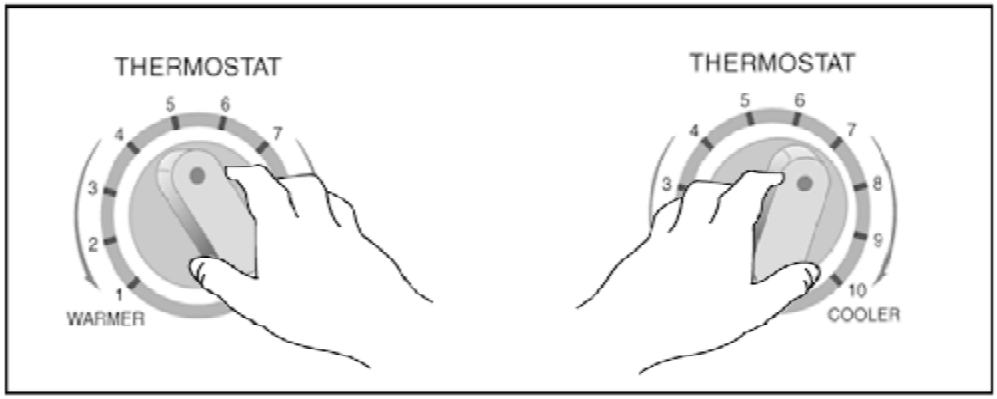


4. Thermostat Control Knob

Turn the Thermostat Control Knob as shown in Fig. 4. Usually “6” ~ “7” is the recommended setting position for cooling and “4” ~ “5” for heating.

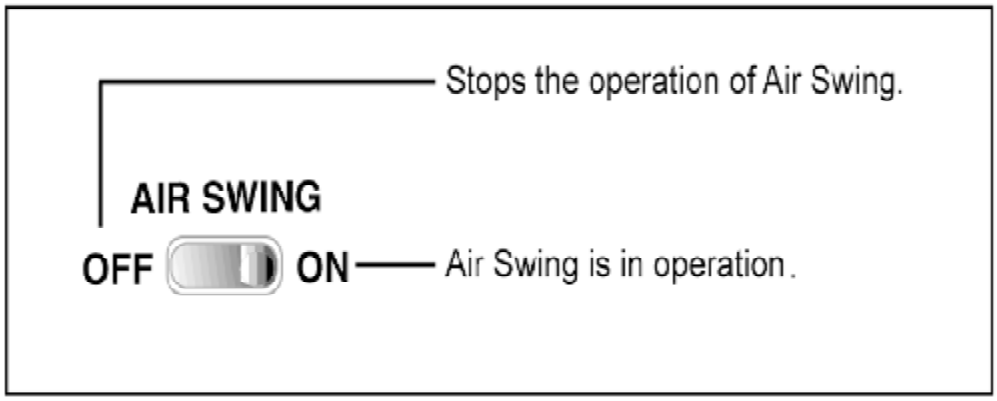
Note: When the Thermostat Control Knob is set to “10”, moisture may freeze onto the evaporator fins and prevent effective cooling. If this happens, turn the Main Control Knob to FAN, and the Thermostat Control Knob counterclockwise. This will quickly defrost the evaporator fins so that normal cooling can be resumed.

Fig.4



5. Air Swing Slide Switch
(Airflow direction adjustment side-to-side)
To obtain a fixed airflow direction, set the Air Swing Slide Switch to "ON" for the vanes to swing from side to side until the desired flow direction is reached, then switch it to "OFF".
For continuous side-to-side air circulation, set the Air Swing Slide Switch to "ON".

Fig. 5



9. How to Install

9.1. Before installing the air conditioner, please read the following:

9.1.1. Electrical Work.

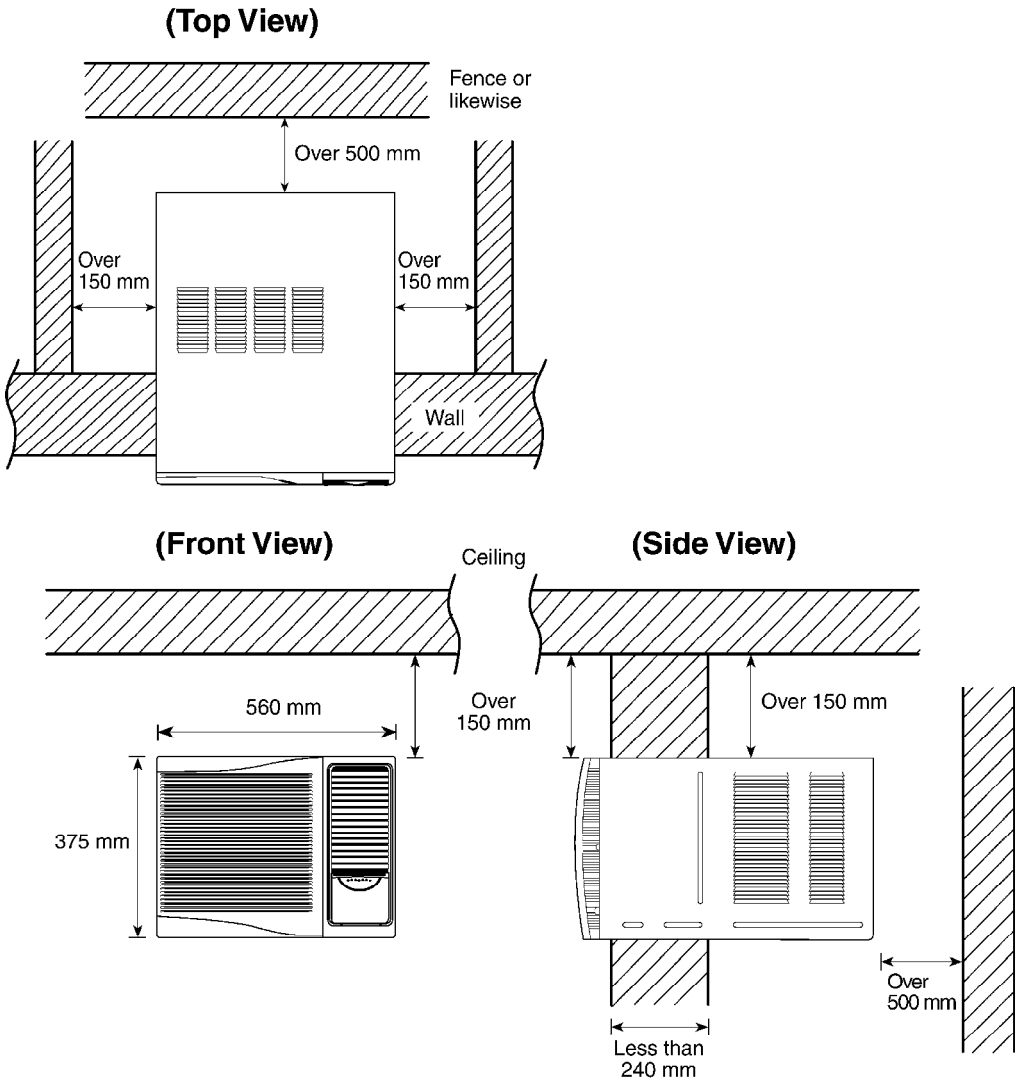
- **Always use at the rated voltage and with a specific air conditioning circuit.**
- **Power supply point shall be the place where there is ease for the power disconnection in case of emergency.**
- **Some installation locations may require installation of a short-circuit breaker.**
- **A 16 Ampere time delay fuse or circuit breaker is required.**
- **Nominal cross sectional area of power supply wire must be 3 core x 1.0 mm^2 or above.**
- **The power supply must be from an independent circuit.**
- **All electrical installation must be made in accordance with local wiring and safety regulations wherever applicable.**
- **There must be a double pole switch with minimum of 3mm contact gap in the fixed installation circuit (Applicable for models without power supply plug only).**

9.1.2. Select the Best Location.

- Install the unit at the nearest power outlet.
- The air conditioner should be installed in a dry place where there are no draughts.
- Condensation from the air conditioner must be drained into an appropriate location.
- Do not install in a location where flammable gas leaks is a possibility.
- Usage in locations where the air is salty such as coastal areas or near hot spas, or where sulphurous gas is generated, may lead to a malfunction.
- Do not install this appliance in a laundry room or other locations where water may drip from the ceiling, etc.
- Select an installation location which is rigid and strong enough to support or hold the unit and select a location for easy maintenance.

9.2. Preparation for Installation.

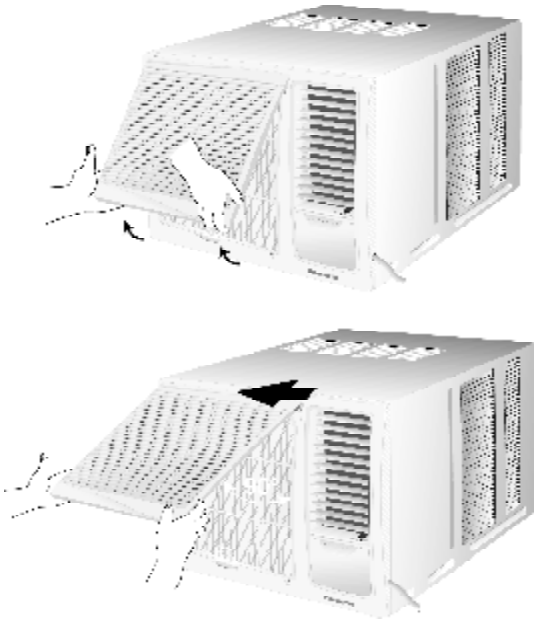
- There should not be any obstacles surrounding the unit.
- Prepare an installation hole that is only slightly bigger than the cabinet size.



9.3. Installation Procedure.

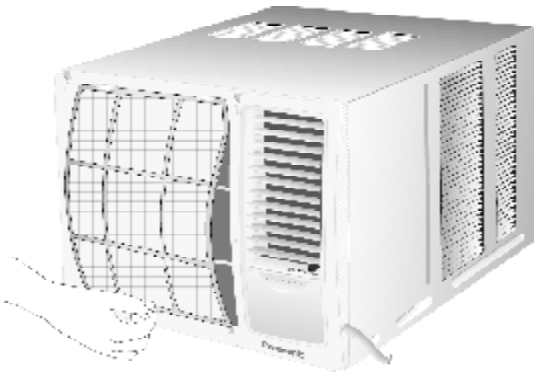
9.3.1. Remove the Front Intake Grille.

- Pull up the Front Intake Grille about 90° and slide it slightly to the left to unhook the tabs.



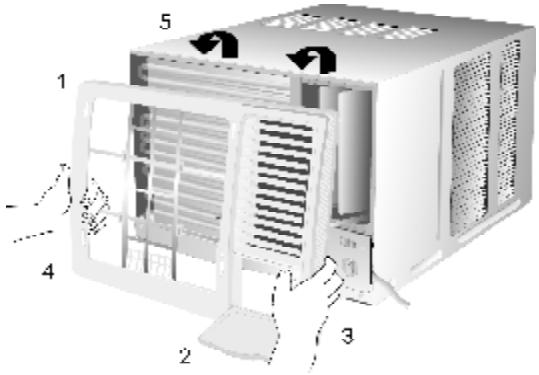
9.3.2. Remove the Air Filter.

- Tilt up and pull out the air filter by the holder.



9.3.3. Remove the Front Grille.

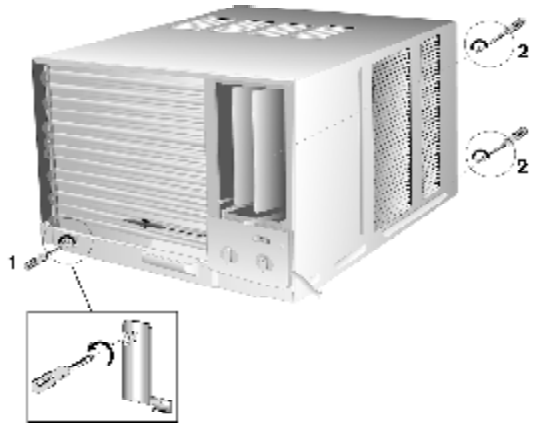
1. **Remove the adhesive tapes from all sides of the Front Grille.**
2. **Open the Control Panel cover.**
3. **At the bottom right side of the Front Grille, press inward on the Cabinet near the Power Cord and pull the grille outward to the right until the right tab releases.**
4. **At the bottom left side, push inward on the Cabinet and pull the grille outward to the left to release the left tab. Do not pull the bottom edge toward you more than 3 inches as to prevent top two tabs from damage.**
5. **Slide the Front Grille upward to free the two top tabs from slots at the top of the Cabinet.**



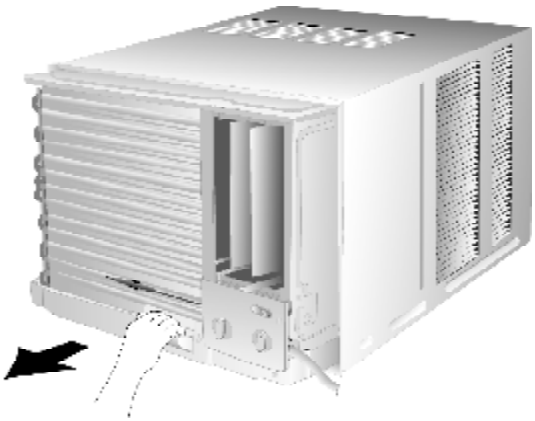
9.3.4. Remove the Chassis Locking Bracket from the Cabinet.

1. Unscrew and remove the Chassis Locking Bracket.

2. Unscrew and remove from rear Cabinet.

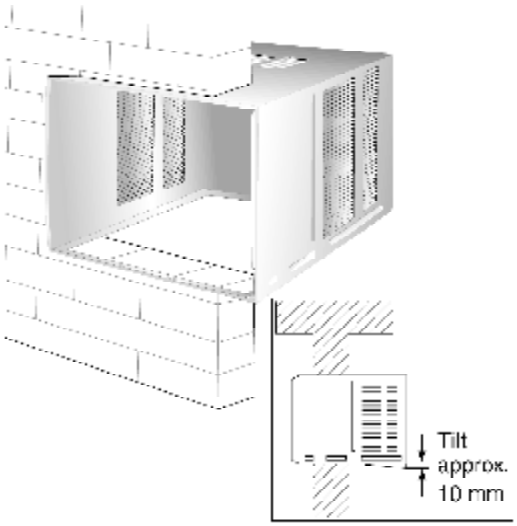


9.3.5. Slide the Chassis out from the Cabinet.



9.3.6. Place Cabinet into the installation hole, then secure it by wood screws or nails.

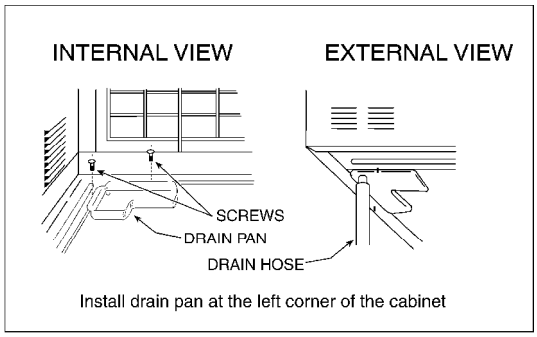
- Note: Tilt down for better drainage (max. 10mm).



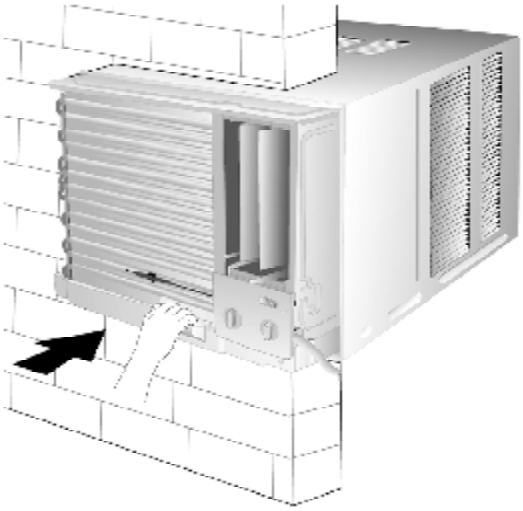
9.3.7. Install the Drain Pan.

- Install the Drain Pan at the left corner of the Cabinet with 2 screws. Connect the drain hose to the outlet of Drain Pan bottom.

- Note: Drain hose or tubing can be purchased locally to satisfy your particular needs.

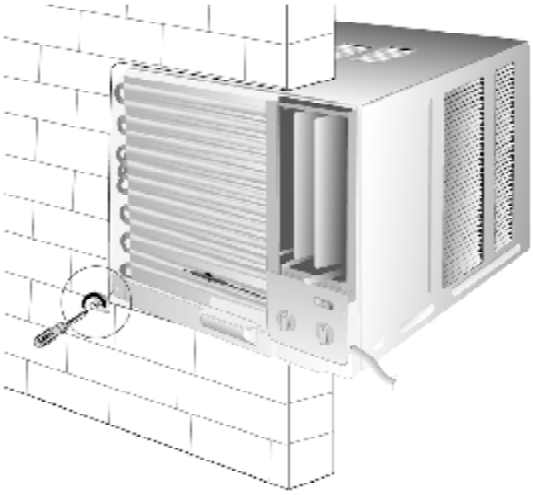


9.3.8. Slide the Chassis back into the Cabinet.



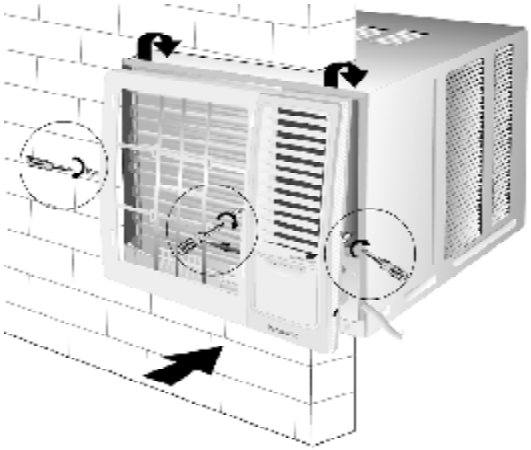
9.3.9. Lock the Chassis back to the Cabinet by using back the Chassis Locking

Bracket.

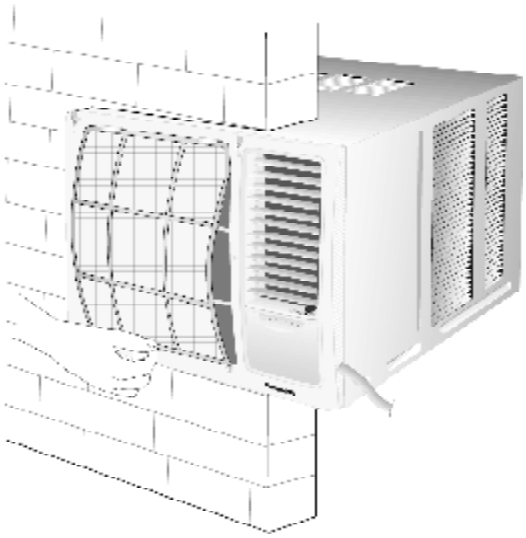


9.3.10. Reattach the Front Grille to the Cabinet and secure it with screws.

- Note: Depending upon the location of the AC outlet, route the AC cord to either the left or right side while installing the Front Grille.

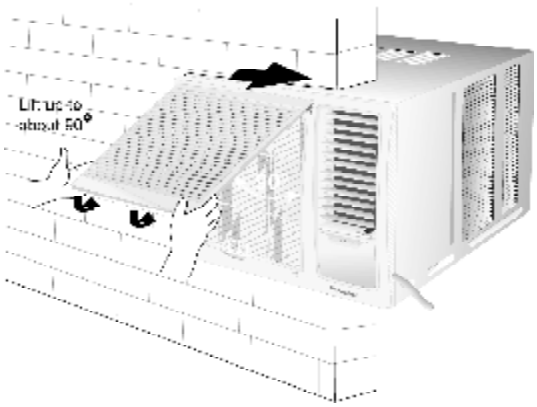


9.3.11. Insert the Air Filter.



9.3.12. Reattach the Front Intake Grille.

- Slide the Front Intake Grille slightly to the right to reattach the tabs and then push down to close tight.
Note: A”Click” sound can be heard when the Front Intake Grille is pushed down.

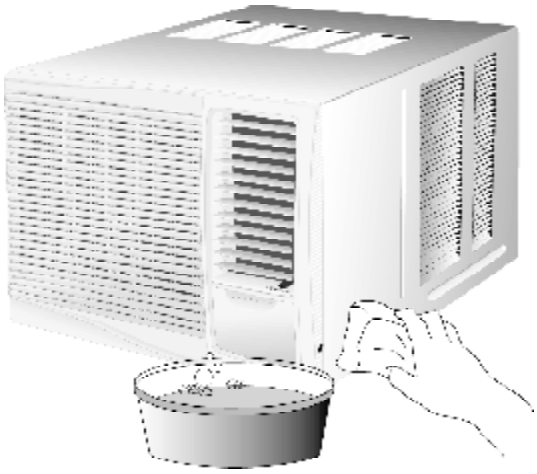


10. Care and Maintenance

⚠ **Caution: Always turn off the air conditioner and the main power supply before unplugging the power cord to clean the unit.**

10.1. Cleaning the Unit.

Clean the Cabinet, Front Grille with a mild soap or detergent and lukewarm water.

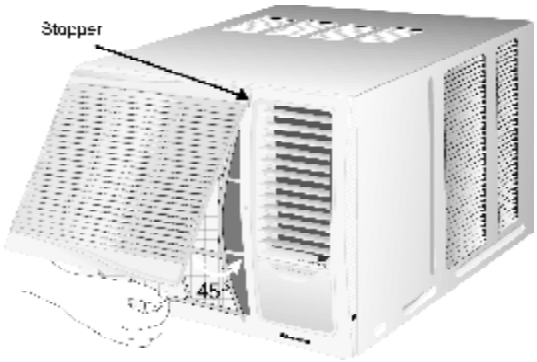


10.2. Cleaning the Front Intake Grille.

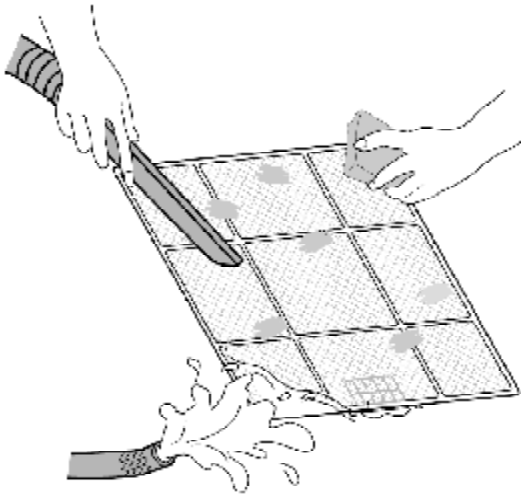
Gently wash with water and a sponge. (Do not use a scrubbing brush or other hard cleaning aids).

10.3. Cleaning the Air Filter.

1. **Pull up the Front Intake Grille.**
2. **Lift up the Front Intake Grille at 45° until it is supported by the stopper.**



3. Tilt up and pull out the Air Filter by the holder.
4. Vacuum the front of the filter and then wash the back of it with water. If it is badly soiled, wash with a mild household detergent.

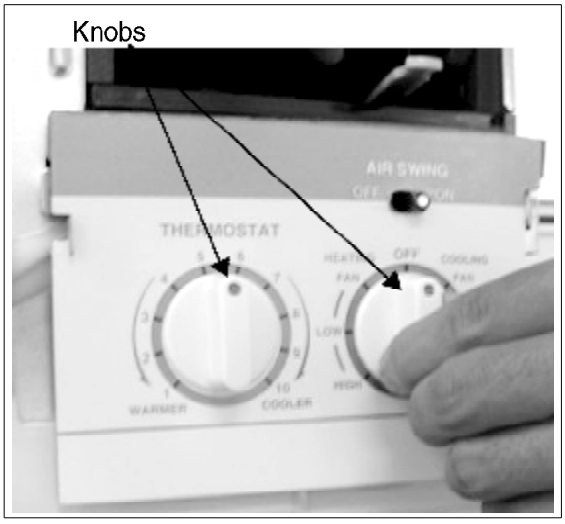


Note: Do not clean with benzene, thinner, scouring powder or corrosive chemicals. Do not dry the Front Intake Grille or the Air Filter in direct sunlight. Exposure to direct sunlight may discolor or deform the panel.

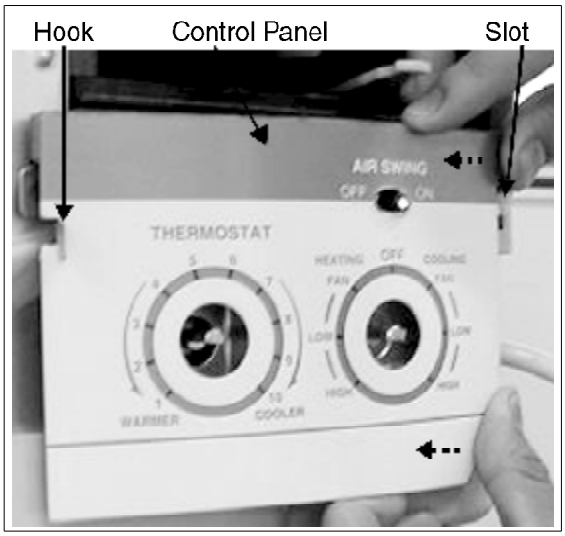
11. Service Information

11.1. Removal of the Control Board

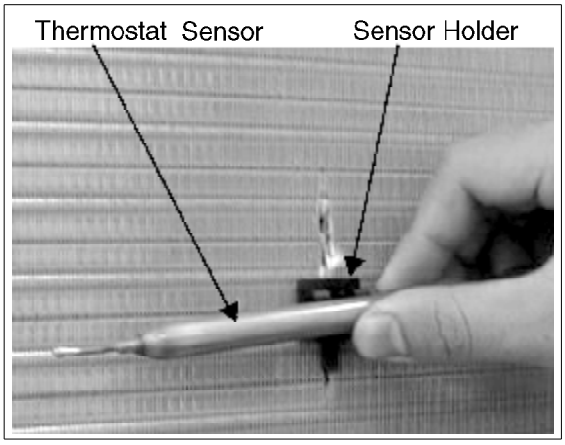
1. Remove the Front Intake Grille (refer to page 12).
2. Remove the Air Filter (refer to page 12).
3. Remove the Front Grille (refer to page 12).
4. Remove the 2 knobs.



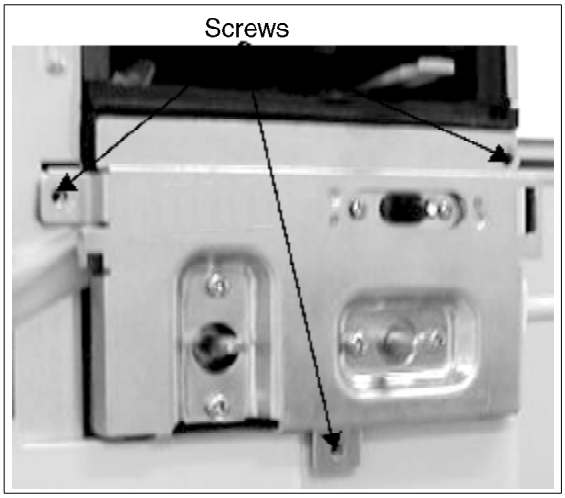
5. To take off the Control Panel, release the slots to remove the Control Panel.



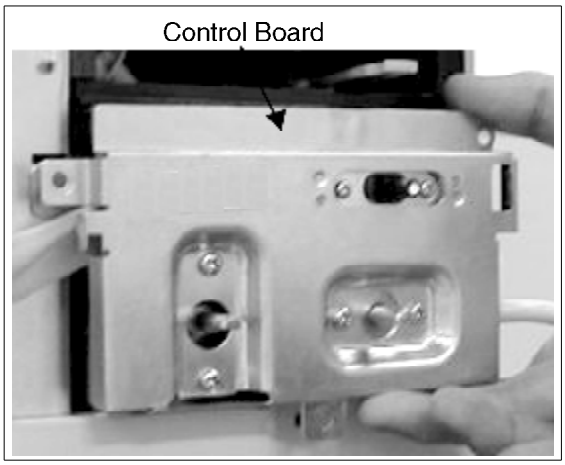
6. Release the thermostat sensor from the sensor holder.



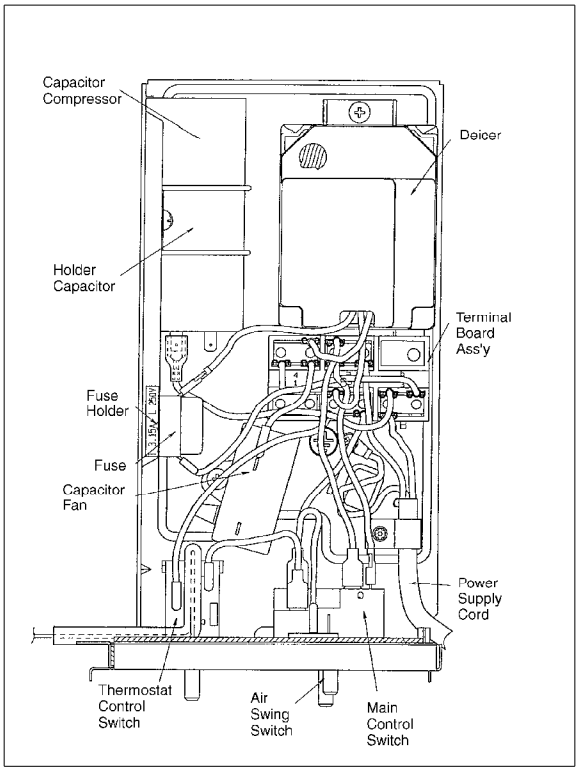
7. Loosen the 3 screws of the Control Board.



8. Slide the Control Board out from the chassis.



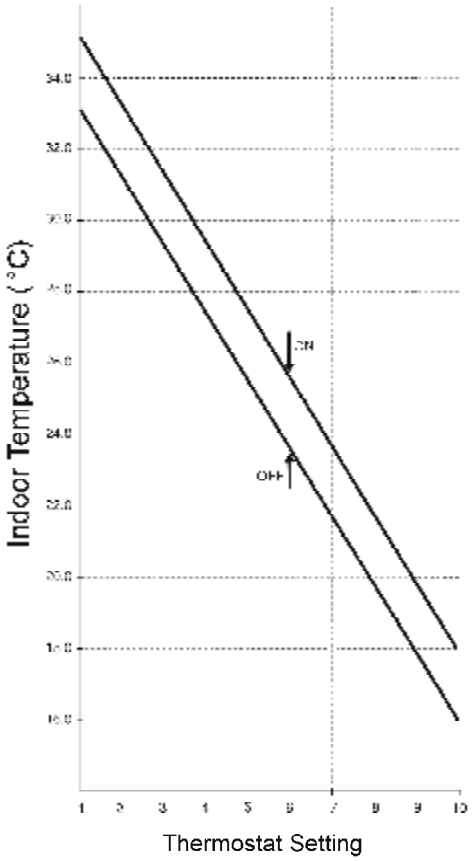
Control Board Part Location



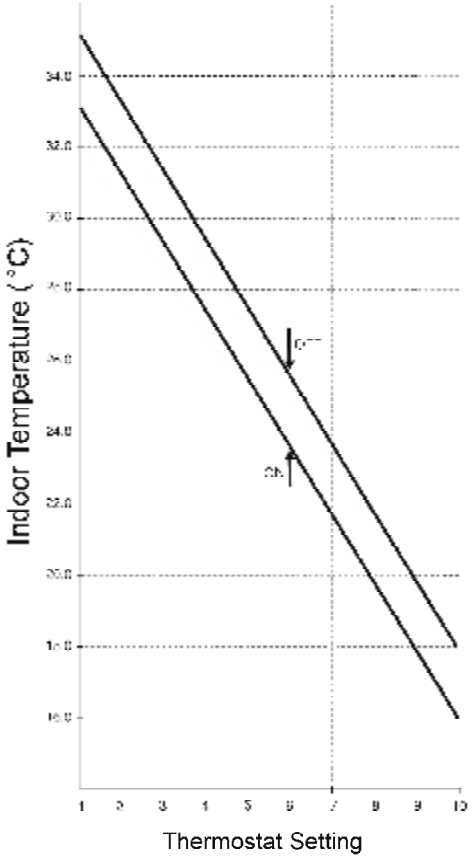
12. Technical Data

12.1. Thermostat Characteristics.

12.1.1. Mechanical Thermostat (Cooling).

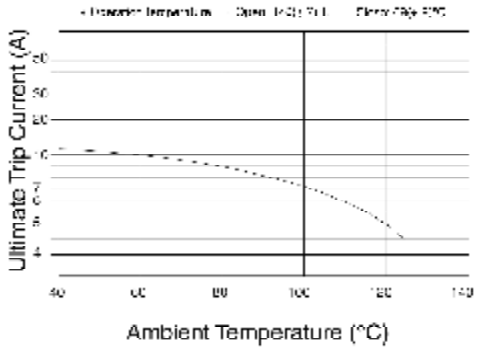


12.1.2. Mechanical Thermostat (Heating).

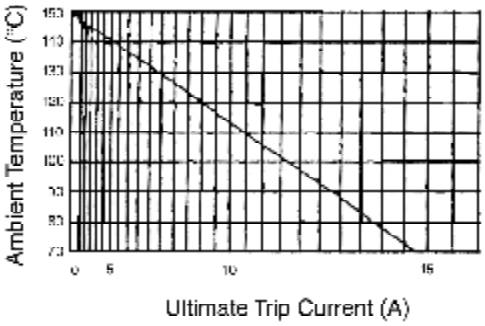


12.2. Overload Protector Characteristics.

12.2.1. CW-A90AR (CWA121035).



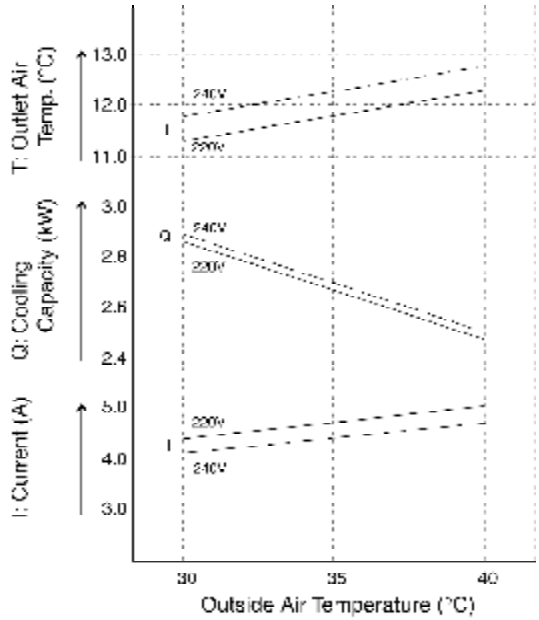
12.2.2. CW-A120AR (Inner Protector).



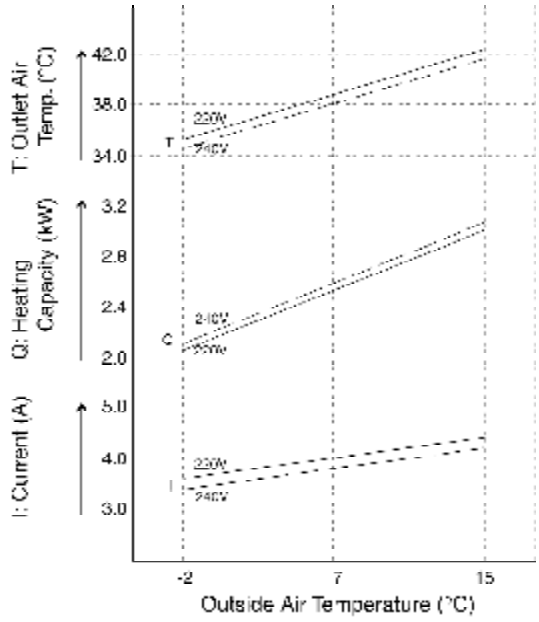
12.3. Operation Characteristics.

12.3.1. CW-A90AR

12.3.1.1. Cooling Characteristics Vs. Outdoor Temperature.

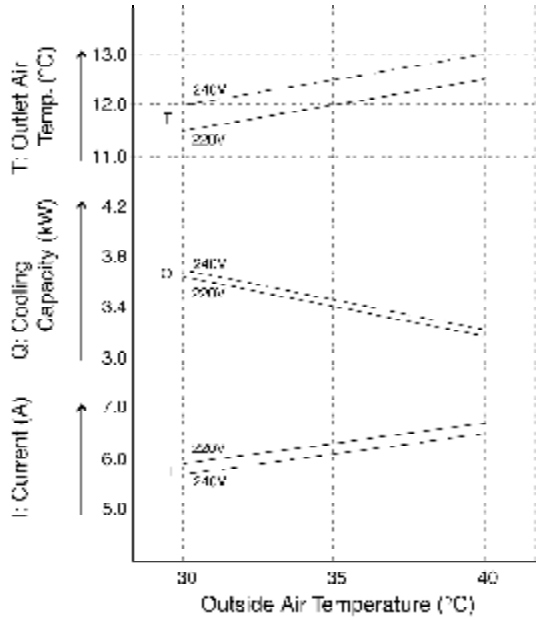


12.3.1.2. Heating Characteristics Vs. Outdoor Temperature.

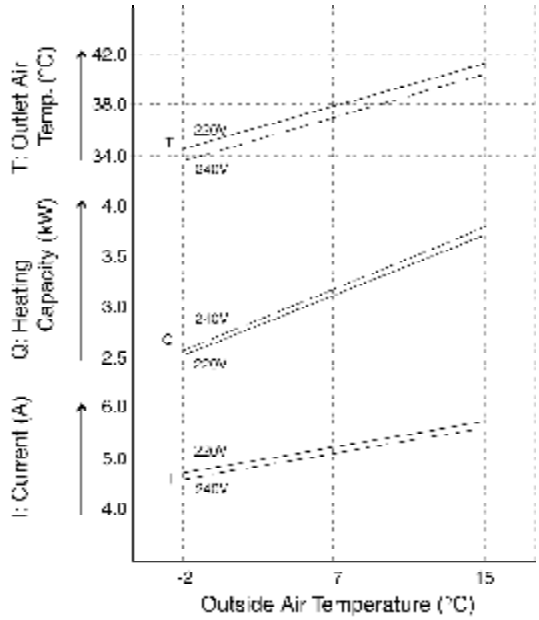


12.3.2. CW-A120AR

12.3.2.1. Cooling Characteristics Vs. Outdoor Temperature.



12.3.2.2. Heating Characteristics Vs. Outdoor Temperature.



12.4. Sensible Capacity Chart.

12.4.1. CW-A90AR

- 240 V

Indoor Wet Bulb Temperature	Outdoor Temperature										
	30 °C			35 °C			40 °C			46 °	
	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SH
17.0 °C	2.65	2.40	0.95	2.48	2.32	1.02	2.32	2.16	1.09	2.11	1.8
19.0 °C				*2.70		*1.03					
19.5 °C	2.94	2.11	0.96	2.75	1.97	1.03	2.57	1.94	1.10	2.35	1.8
22.0 °C	3.27	1.97	0.97	3.05	1.73	1.04	2.84	1.54	1.12	2.59	1.3

- 220 V

Indoor Wet Bulb Temperature	Outdoor Temperature										
	30 °C			35 °C			40 °C			46 °	
	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SH
17.0 °C	2.62	2.38	0.93	2.46	2.30	1.00	2.30	2.14	1.07	2.08	1.8
19.0 °C				*2.67		*1.01					
19.5 °C	2.91	2.08	0.94	2.72	1.95	1.01	2.54	1.92	1.08	2.32	1.8
22.0 °C	3.23	1.95	0.95	3.02	1.71	1.02	2.80	1.52	1.10	2.56	1.3

12.4.2. CW-A120AR

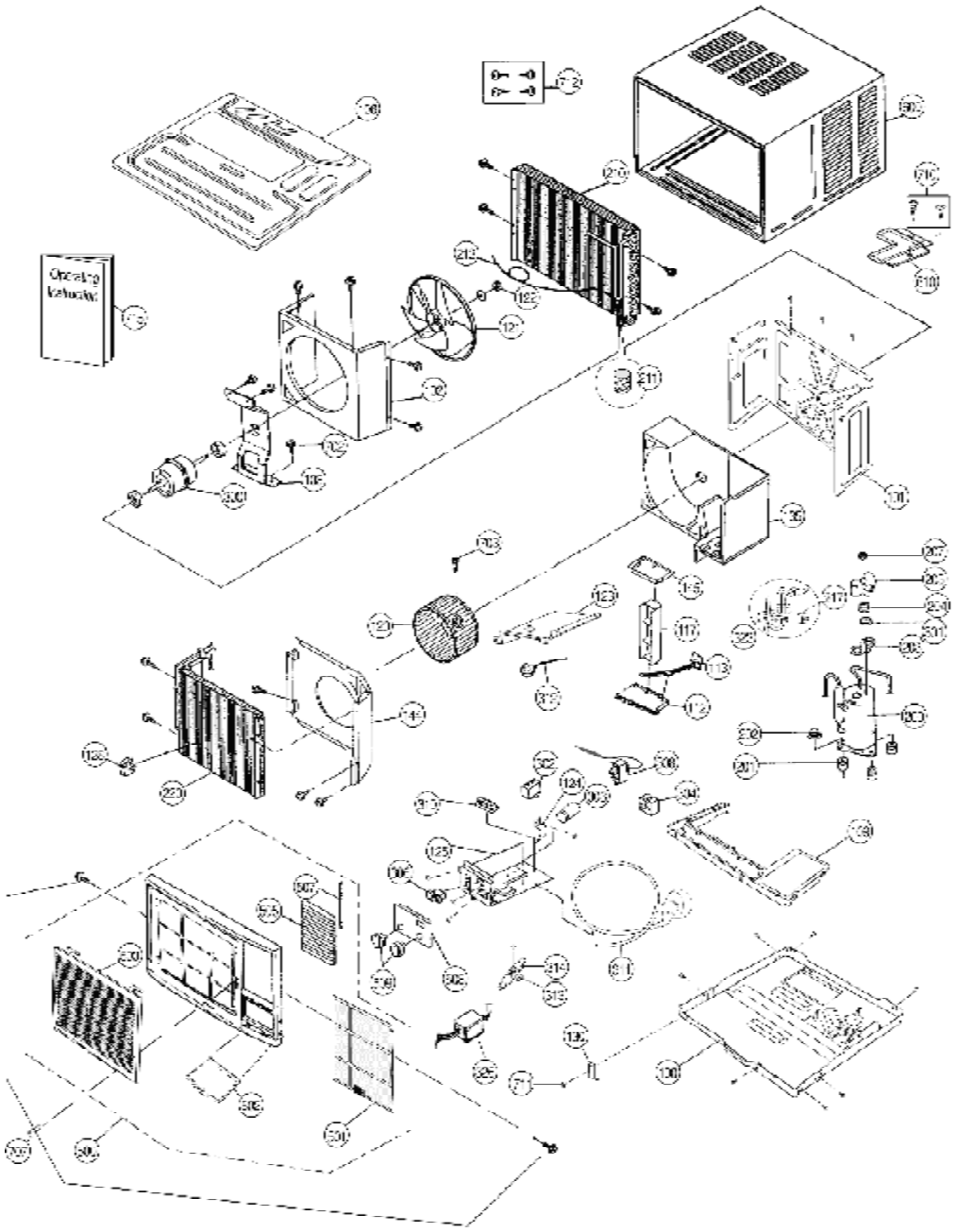
- 240 V

Indoor Wet Bulb Temperature	Outdoor Temperature										
	30 °C			35 °C			40 °C			46 °	
	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SH
17.0 °C	3.38	3.07	1.29	3.17	2.97	1.39	2.97	2.76	1.48	2.69	2.3
19.0 °C				*3.45		*1.40					
19.5 °C	3.76	2.69	1.30	3.52	2.52	1.40	3.28	2.48	1.50	3.00	2.3
22.0 °C	4.17	2.52	1.32	3.90	2.21	1.41	3.62	1.97	1.53	3.31	1.7

- 220 V

Indoor Wet Bulb Temperature	Outdoor Temperature										
	30 °C			35 °C			40 °C			46 °	
	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SH
17.0 °C	3.33	3.03	1.23	3.13	2.92	1.33	2.92	2.72	1.42	2.65	2.3
19.0 °C				*3.40		*1.34					
19.5 °C	3.71	2.65	1.25	3.47	2.48	1.34	3.23	2.45	1.43	2.96	2.3
22.0 °C	4.11	2.48	1.26	3.84	2.18	1.35	3.57	1.94	1.46	3.26	1.7

13. Exploded View



(Note)

- The above exploded view is for the purpose of parts disassembly and replacement.

- The non-numbered parts are not kept as standard service parts.

14. Replacement Part List

Ref. No.	Part Name & Description	Qty.	CW-A90AR	CW-A120AR
100	Base Pan Complete	1	CWD52K1027A	CWD52K1026A
101	Bulkhead Ass'y	1	CWD531004	<-----
102	Air Guide - Propeller Fan	1	CWD311005	<-----
103	Bracket - Fan Motor	1	CWD541006	<-----
106	Top Plate	1	CWD64C1010	<-----
109	Drain Tray - Evaporator	1	CWH401006	<-----
112	Holder - Ventilation Lever	1	CWD911024	<-----
113	Ventilation Lever	1	CWH221001	<-----
117	Vane - Air Swing	1	CWE241006	<-----
120	Blower Wheel Complete	1	CWH01K1002	<-----
121	Propeller Fan	1	CWH001002	<-----
122	Nut - Propeller Fan	1	CWH56032	<-----
123	Holder - Air Swing Motor	1	CWD911028	<-----
124	Holder - Capacitor (Compressor)	1	CWH30133	<-----
125	Control Board (Main)	1	CWH10K1010	<-----
128	Holder - Sensor	1	CWH32086	<-----
130	Chassis Locking Bracket (Left)	1	CWD932055	<-----
135	Air Guide - Blower Wheel	1	CWD321007	<-----
144	Air Guide - Blower Wheel (Front)	1	CWD321008	<-----
145	Supporter - Air Swing	1	CWD932038	<-----
200	Compressor	1	2PS164D5BB02	2KS206D5AA04
201	Bushing - Compressor Mount	3	CWH50072	CWH50055
202	Nut - Compressor Mount	3	CWH4582065	XNG8B
203	Gasket - Terminal Cover	1	CWH7070603	<-----
204	Holder - Overload Protector	1	CWH7041200	-
205	Terminal Cover - Compressor	1	CWH7070206	<-----
207	Nut - Terminal Cover	1	CWH7080300	<-----
210	Condenser	1	CWB32C1048	<-----
211	Strainer	1	CWB11025	<-----
212	Capillary Tube	1	CWB15K1014	CWB15K1013
217	4 - Way Valve	1	CWB00002	<-----
220	Evaporator	1	CWB30C1019	<-----
300	Fan Motor	1	CWA951045	CWA921009
301	Overload Protector	1	CWA121035	-
302	Capacitor - Fan Motor	1	CWA312042 (2.5 μF, 440VAC)	CWA31609 (3.5 μF, 400VAC)
303	Capacitor - Compressor	1	CWA31503 (30 μF, 370VAC)	CWA31716 (35 μF, 370VAC)
304	Main Control Switch	1	CWA07056	<-----
306	Switch - Air Swing	1	CWA04039	<-----
308	Thermostat	1	CWA151014	<-----
310	Terminal Board	1	CWA4711064	<-----
311	Power Supply Cord	1	CWA20C2077	<-----
312	Air Swing Motor	1	CWA98266	<-----
313	Fuse	1	XBA2C31TR0	<-----
314	Fuse Holder	1	XCSCW011	<-----
323	V - Coil Complete	1	CWA43C695	<-----
326	Deicer	1	CWA171002	<-----
500	Front Grille Complete	1	CWE11C2091	<-----
501	----Air Filter	1	CWD001009	<-----
502	----Grille Door	1	CWE141004	<-----
503	----Intake Grille	1	CWE221009	<-----
505	----Vane	12	CWE241007	<-----

Ref. No.	Part Name & Description	Qty.	CW-A90AR	CW-A120AR
507	----Link - Vanes	1	CWE261004	<-----
508	Control Panel	1	CWE312076	<-----
509	Knob Complete - Turning	2	CWE17C1003	<-----
600	Cabinet Complete	1	CWE00C1017	<-----
610	Drain Pan	1	CWH40077	<-----
702	Screw - Bracket Fan Motor	4	CWH55101	<-----
703	Screw - Blower Wheel	1	CWH4580326	<-----
707	Screw - Front Grille Mount (3 Screws)	1	CWH82C1027	<-----
710	Screw - Drain Pan (2 Screws)	1	CWG86C733	<-----
711	Screw - Chassis Locking Bracket	1	XTT4+8J	<-----
712	Screw - Unit Installation (4 Screws)	1	CWG86C280	<-----
715	Operating Instructions	1	CWF563171	<-----

- The above parts are kept for seven years in accordance with MEI service policy.

- However, longer lead time will be taken in supplying the non-numbered parts.

- All parts are supplied from MAICO, Malaysia (Vendor Code: 061).

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